

REMARKS

The Present Invention

The present invention relates to methods of treating a set gypsum-containing material. Preferred methods according to the invention comprise applying to the set gypsum-containing material at least one member from each of the following types of inorganic phosphate salts: monobasic phosphate salts, trimetaphosphate salts, and acyclic polyphosphate salts having at least three phosphate units.

The Pending Claims

Claims 14-19, 21-27, and 31-32, directed to a method of treating a set gypsum-containing material, are pending currently. Reconsideration of the pending claims is respectfully requested.

The Amendments to the Claims

Claim 14 has been amended to recite the feature that at least one member from *each* of the following types of inorganic phosphate salts: monobasic phosphate salts, trimetaphosphate salts, and acyclic polyphosphate salts having at least three phosphate units, is applied to the set gypsum-containing material. Claims 20 and 28-30 have been canceled as superfluous. No new matter has been added by way of these amendments.

Although these amendments are made "after-final," no new issues are believed to be raised inasmuch as the combination of phosphates set forth in revised claim 1 were previously set forth in claim 20 already.

Summary of the Office Action

Claims 14-20 and 23-31 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Veeramasuneni et al. (i.e., U.S. Patent No. 6,409,824). Claim 32 stands rejected under 35 U.S.C. § 103(a) as being obvious over Veeramasuneni et al. in view of Hashimoto et al. (i.e., U.S. Patent No. 4,174,230).

Discussion of the Anticipation and Obviousness Rejections

The anticipation and obviousness rejections are moot in view of the revised pending claims. In this respect, in light of the revisions to the claims made herein, all of the pending claims recite the feature that *at least one member from each* of the following *three* groups of inorganic phosphates: monobasic phosphate salts, trimetaphosphate salts, *and* acyclic polyphosphate salts having at least three phosphate units, is applied to a set gypsum-containing material.

The anticipation and obviousness rejections are predicated on Veeramasuneni et al., which fails to teach or suggest the claimed combination of phosphates. In one aspect, Veeramasuneni et al. discloses a post-set treatment in which an inorganic phosphate compound is used in combination with an enhancing material selected from (i) organic phosphonic compounds, (ii) borate compounds, (iii) carboxylic compounds, or mixtures of (i)-(iii) (see, e.g., paragraph bridging columns 2 and 3, and column 9, lines 26-28). In some cases, Veeramasuneni et al. discloses, for example, the use of phosphate compound, or a "mixture of phosphate compounds." Also, as pointed out on page 3 of the Office Action, column 9, lines 58-60 of Veeramasuneni et al. discloses the use of sodium trimetaphosphate and/or ammonium polyphosphate. Significantly, however, Veeramasuneni et al. does not provide a disclosure or suggestion of the combination of *all three different types* of phosphate materials, as specifically recited in the revised pending claims. Accordingly, the anticipation rejection should be withdrawn.

Furthermore, the revised pending claims also are not rendered obvious because, for example, a method of treating set gypsum-containing material comprising applying *at least one member from all three categories* of inorganic phosphates, as set forth in the revised pending claims, results in advantageous synergistic effects, as demonstrated in the present application.

Notably, Table 1 on page 21 of the present invention, which sets forth Examples 1-8, shows the unexpected improvement achieved by applying at least one member from all three categories of the presently claimed inorganic

phosphates as compared with use of none, one, or two of the inorganic phosphates. Example 7, which exemplifies the use of an inorganic phosphate from each of the three claimed categories of inorganic phosphates, demonstrates higher one-hour compressive strength, dry compressive strength, one-hour Monotron surface hardness, and dry Monotron surface hardness, as compared with the other examples. For at least this reason, the pending claims are not obvious over the cited references.

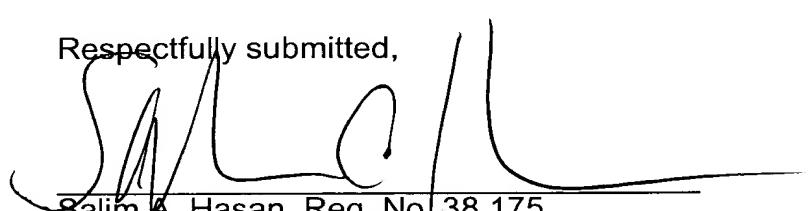
Claim 32 depends from, and therefore incorporates the limitations of, claim 14 (with claim 31 acting as an intervening claim). As described above, however, Veeramasuneni et al. does not teach or suggest a method of treating a set gypsum-containing composition that comprises the use of at least one member from each of the three types of phosphate materials as recited in the pending claims. Furthermore, the disclosure of Hashimoto et al. does not cure the deficiencies of Veeramasuneni et al. with respect to the pending claims. Accordingly, the rejection of claim 32 under 35 U.S.C. § 103(a) also is believed to be improper.

Since the cited references fail to disclose or suggest the present invention as recited in the pending claims, the present invention is patentable over the cited references. Accordingly, the anticipation and obviousness rejections should be withdrawn and the application allowed.

Conclusion

The application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



Salim A. Hasan, Reg. No. 38,175
LEYDIG, VOIT & MAYER, LTD.
Two Prudential Plaza, Suite 4900
180 North Stetson
Chicago, Illinois 60601-6780
(312) 616-5600 (telephone)
(312) 616-5700 (facsimile)

Date: April 7, 2004